[0029] (18) A method for culturing an animal cell, comprising culturing the animal cell in a medium for culturing animal cells supplemented with an amino acid or glucose, or an amino acid and glucose, or adding an amino acid or glucose, or an amino acid and glucose to a culture of the animal cell.

[0030] (19) The method of (18), wherein the amino acid is one or more kinds selected from the group consisting of tryptophan, serine, cysteine, cystine, methionine and arginine.

[0031] (20) The method of (18), wherein the amino acid is one or more kinds selected from the group consisting of tryptophan, serine, cysteine, cystine, methionine, arginine, histidine, isoleucine, leucine, lysine, phenylalanine and valine.

[0032] (21) The method of any of (18) to (20), wherein the animal cell is a stem cell.

[0033] (22) The method of (21), wherein the stem cell is one or more kinds selected from the group consisting of an adult stem cell, an embryonic stem cell and an induced pluripotent stem cell.

[0034] (23) The method of any of (18) to (22), wherein the method is for suspension culture of animal cells.

[0035] (24) The method of (23), wherein the animal cells are suspension-cultured while allowing to form a cell aggregate.

[0036] (25) The method of any of (18) to (22), wherein the method is for adhesion culture of animal cells.

Advantageous Effects of Invention

[0037] According to the present invention, an additive for culturing animal cells that can preferably improve proliferation ability of animal cells, particularly stem cells, can be provided, and a medium for culturing animal cells, and a method for culturing animal cells that can preferably improve proliferation ability of animal cells can be provided.

BRIEF DESCRIPTION OF THE DRAWINGS

[0038] FIG. **1** shows the influence of the culture additive of the present invention on the proliferation ability of human induced pluripotent stem cell 1210B2 line in suspension culture in Experimental Example 1.

[0039] FIG. **2** shows the influence of the medium of the present invention on the proliferation ability of human induced pluripotent stem cell 1210B2 line in adhesion culture in Experimental Example 2.

[0040] FIG. **3** shows the influence of the medium of the present invention on the proliferation ability of human induced pluripotent stem cell 201B7 line in adhesion culture in Experimental Example 2.

[0041] FIG. **4** shows the influence of the culture method of the present invention on the proliferation ability of human induced pluripotent stem cell 1210B2 line in suspension culture in Experimental Example 3.

[0042] FIG. **5** shows the influence of the culture method of the present invention on the proliferation ability of human induced pluripotent stem cell 1231A3 line in suspension culture in Experimental Example 3.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0043] The present invention provides an additive for culturing animal cells (hereinafter to be also referred to as "the additive of the present invention" in the present specification).

[0044] As used herein, the "additive for culturing animal cells" refers to an additive suitable for culturing animal cells, and to an additive to be added to a medium or culture when culturing animal cells.

[0045] As the animal cell in the present invention, mammal-derived normal cell, stem cell and progenitor cell can be mentioned.

[0046] As the mammal-derived normal cell, germ cells such as spermatozoon, ovum and the like, and somatic cell constituting the living body can be mentioned.

[0047] Examples of the somatic cell constituting the living body include, but are not limited to, fibroblast, bone marrow cell, B lymphocyte, T lymphocyte, neutrophil, erythrocyte, platelet, macrophage, monocyte, osteocyte, pericyte, dendritic cell, adipocyte, mesenchymal cell, epithelial cell, epidermal cell (e.g., keratinocyte, corneocyte etc.), endothelial cell, vascular endothelial cell, hepatocyte, chondrocyte, cumulus cell, nerve cell, glial cell, oligodendrocyte, micro glia, astrocyte, heart cell, esophageal cell, muscle cells (e.g., smooth muscle cell, skeleton muscle cell), pancreatic beta cell, melanocyte and mononuclear cell and the like.

[0048] The somatic cell includes, for example, cells collected from any tissue such as skin, kidney, spleen, adrenal gland, liver, lung, ovary, pancreas, uterus, stomach, colon, small intestine, large intestine, bladder, prostate, testis, thymus, muscle, connective tissue, bone, cartilage, blood vessel tissue, blood (including cord blood), bone marrow, heart, eye, brain, neural tissue and the like.

[0049] The stem cell refers to a cell that has self-renewal ability and the ability to differentiate into another type of cell and can proliferate infinitely.

[0050] Examples include adult stem cell such as hematopoietic stem cell, satellite cell, neural stem cell, mesenchymal stem cell, mammary gland stem cell, olfactory mucosa stem cell, neural crest stem cell, hepatic stem cell, pancreatic stem cell, muscle stem cell, germline stem cell, intestinal stem cell, hair follicle stem cell and the like; pluripotent stem cell such as embryonic stem cell (ES cell), embryonic tumor cell, embryonic germ cell, induced pluripotent stem cell (iPS cell) and the like; cancer stem cell and the like.

[0051] Progenitor cell is a cell in the process of differentiating from the aforementioned stem cell into a specific somatic cell or germ cell, and satellite cell, pancreatic progenitor cell, vascular progenitor cell, endothelial progenitor cell, hematopoietic progenitor cell (cord blood-derived CD34 positive cell, etc.) and the like can be mentioned.

[0052] The additive of the present invention is preferably provided as an additive for culture of stem cells, more preferably an additive for culture of adult stem cells, embryonic stem cells, and induced pluripotent stem cells, further preferably an additive for culture of embryonic stem cells and induced pluripotent stem cells.

[0053] The additive of the present invention contains an amino acid or glucose, or an amino acid and glucose.

[0054] The amino acid to be contained in the additive of the present invention is an amphoteric organic compound